Subject: ROM ISSUES - RC / RA **BULLETIN NO.: 094B**

[ ] Factory Modification **[ ] Field Modification** **[ ] Safety Information** **[X] Technical Information** **[ ] General Information** **[ ] Adv. Tech Information**	**Applies to:** **RC SERIES AND RA SERIES**	**Modification Schedule:** **[ ] TBS** **[ ] Next Call** **[ ] Next PM** **[X] As Necessary**	**Factory Installed_____** **Field Installed_____** **FittingTime _____**

RISO, Inc. is continuously enhancing the product line and adding options. In some cases, this process requires that ROMs be updated. In an effort to eliminate confusion we are publishing a brief explanation of these updates. Depending on selected options, you may find it necessary (or unnecessary) to change ROMs in your machine. The latest version is no longer considered better than the previous, because of different system configurations and requirements.

RC4000/4500/5600

SP11/V5.17 compatible with PP11/V5.04 thru 5.08

1. SP11/V5.17 Enables the RC/CI Interface for the RC4500/5600/5600D.
2. Modified Main motor speed (30rpm's - 15rpm 's) during Test Modes; 81, 82 & 83.

Operation Panel PPll/V5.04 - 5.08

1. Modified to correspond with RC Sorter.
2. Corrected for display lockups when executing Test Print during Program Print functions.
3. Modified to configure with RC4000.
4. Modified interface function for RC/CI.

SP11/V7.01 compatible with PP11/V5.08

1. Modified timing of the Pressure solenoid activation to ensure pressure hook activation.

SP11/V7.04 compatible with PP11/V5.10

1. Operation Panel Rom (V5.10) added control program for TM2400 Sorter.
2. (V5. 10) Added Test Mode 97; (operates same as Test Mode 90).

SP11/V7.07 compatible with PP11/VS.10 or PP11/V5.12

1. Added Test Mode 79 (Machine Aging Operation) fiom 5,000 to 3,000 times.

SP11/V7.08 compatible with PP11/V5.10 or PP11/V5.12

1. The Lock solenoid is activated to release the drum lock when it is confirmed that the Magnet A detection sensor detects Magnet A, one second alter the drum stops rotating.
   This revision is to prevent the drum fiom being pulled out when it stops rotating and overruns the home (Magnet A Detection) Position.
2. When the Main Motor is activated, the inking motor is also activated after the status of the A Magnet detection sensor changes from "Detection" to "No Detection." (When the Ink Sensor is not detecting ink).
   This revision is to prevent ink overflow due to repeated presses of the All Reset button and Start button in the process of recovering fiom "T-l Call Service" (Main Motor lock) error.

PP11/V5.10 to PP11/V5.12 compatible with SP11/V7.07 or greater

1. The Panel ROM was modified to prevent the disposed master counter fiom being reset to "0" when using Test Mode 97.

RC5800

SP22/V3.01 compatible with PP22/V5.03

1. Modified timing of Pressure solenoid activation to ensure pressure hook firnction.

OPERATION PANEL PP22/V5.03

1. Corrected for display lockup conditions when Master Jam sensor detects master material at: "Power ON" and "Automatic Idle. "

SP22/V3.04 compatible with PP22/V5.04

1. Operation Panel added Test Mode 97 (operates same as Test Mode 90).

SP22/V3.07 compatible with PP22/V5.04 or PP22/V5.06

1. Added Control Program for TM2400 Sorter.
2. Test Mode 79 (Machine Aging Operation) 5,000 —> 3,000 times.

SP22/V3.08 compatible with PP22/V5.04 or PP22/V5.06

1. Modified Image Read Start Position to 5mm from 2mm at Reduction Mode.

SP22/V3.09 compatible with PP22/V5.04 or PP22/V5.06

1. The lock solenoid is activated to release the Drum lock when it is confirmed that the Magnet A Detection sensor detects Magnet A, one second alter the drum stops rotating. This revision is to prevent the Drum fiom being pulled out when it stops rotating and overruns the Home (Magnet A Detection) Position.
2. When the Main Motor is activated, the inking motor is also activated after the status of the Magnet A Detection Sensor changes from "Detection " to "No Detection." (When the Ink Sensor is not detecting ink).
   This revision is to prevent ink overflow due to repeated presses of the All Reset button and the Start button in the process of recovering from "T-l Call Service" (Main Motor lock) error.

SP22/V3.12 compatible with PP22/V5.04 or PP22/V5.06

1. Revison prevents TM2400 from starting the initial operation when the Paper size setting button is pressed during printing in the Sort or Stack mode.

PP22/V5.06 compatible with SP22/V3.07 or greater

1. The Panel ROM was modified to prevent the disposed master counter from being reset to "0" when using Test Mode 97.

RC6300

SP33/V1.04 compatible with PP33/V5.02

1. Modified program so that separation fan does not work during normal master removal action.
2. Modified program so that separation fan does not work in Test Modes; 80, 81, 82 & 83.

SP33/V1.05 compatible with PP33/V5.02

1. Modified program not to start master making when "Master End" detected in ADF Mode.

SP33/V1.05A compatible with PP33/V5.02

1. Revised to include all combinations of options configured together.

RC6300 (cont.)

SP33/V1.07 compatible with PP33/V5.02

1. The Lock Solenoid is activated to release the Drum lock when it is confirmed that the Magnet A Detection Sensor detects Magnet A, one second after the drum stops rotating.
   This revision is to prevent the drum from being pulled out when it stops rotating and overruns the Home (Magnet A Detection) Position.
2. When the Main Motor is activated, the inking motor is also activated after the status of the Magnet A Detection Sensor changes from “Detection” to “No Detection.” (When the Ink Sensor is not detecting ink).
   This revision is to prevent ink overflow due to repeated presses of the “All Reset” button in the process of recovering fiom “T-l Call Service “ Main Motor lock errors.
3. The following process error has been debugged: a false “receiving-side paper jam “ Message appears during printing just after recovery from a real receiving-side paper jam error, when the error is detected due to the condition that Paper Receiving Sensor 1 detects paper when the light path of the Pressure Detection Sensor has just been blocked by the Pressure disc.
4. The following process error has been debugged: The panel display is locked with “Ready” indicated after performing Test Mode 92 when the TM2400 is connected.
5. The ink aging mode has been added as Test Mode 76.

SP33/V1.07A compatible with PP33/V5.02

1. Revised for any combination of options, **except A4 Drum Size**.

SP33/V1.08 compatible with PP33/V5.02

1. Revised to enable letter size printing (8.5 x 11) with A4 Drum.
2. Changed Master making length fiom 203mm to 209mm with A4 Cylinder installed.

SP33/V1.09 compatible with PP33/V5.03

1. (PP33/V5.03) Operation Panel displays; “A4 WIDE” with an A4 Cylinder installed.
2. The Auto Idle feature is set ready for operation whenever the Auto Idle switch is turned ON, regardless of the rest period. (V5.03)

SP33/V1.10 compatible with PP33/V5.04

1. Enables 2-UP printing when two different originals are placed in an ADF Unit.

SP33/V1.11 compatible with PP33/V5.04

1. Program improvements were made to 2-UP Mode when selected in ADF Mode. After the first original goes through the ADF and the machine “beeps “ while waiting for the second original, the operator has the option of using the Enlargement/Reduction key or the Line/Photo selection key.

SP33/V 1.11A compatible with PP33/V5.04

1. Program changes were made to enable CI Publisher and Risograph Sorter operation with either the A4 or A3 Type Cylinders. The only operational constraint noted was incorrect print positioning on the A4 Cylinder. (See TIB 105)

RC6300 (cont.)

SP33/V1.12 compatible with PP33/V5.05

1. The procedure for resetting the disposed master counter to "0" after the "Master Disposal Box Full" message as indicated on the operation panel, has changed. The disposed master counter resets to "0" by keeping the Disposal Box set switch OFF (deactuated) for 5 seconds or more, when it is indicated that the master Disposal Box is full. In the past, it was reset to "0· by pressing the "All Reset" button after setting the disposal box set switch OFF (deactuated) once.

PANEL ROM: PP11/V5.05 COMPATIBLE WITH SYSTEM ROM: SP33/V1.12 or greater

1. Revised to prevent the disposed master counter from being reset to "0" by via Test Mode 97.

RA4200/4900

RA4200: ROM; RA42/V1.07 - ORIGINAL VERSION
RA4900: ROM; RA42/V1.02 - ORIGINAL VERSION

RA42/V1.07 to RA49/V2.00 & RA49/V1 02 to RA49/V2.00

1. The program for the RA4200 has been loaded.
2. The following process error has been debugged: continuous key operation starts when any of the following keys are pressed for short periods of time - Print Position, Zoom, Test Print and All Reset.
3. The "Paper Jam" LED indication has been cancelled for Error Code E-69, with the SF3000 connected.
4. The Two-Up feature becomes available on the RA4200 by setting DSW3-SW4 on the System PCB to "ON."
5. 30 second pump activation has been added to Test Mode 101 (ink motor operation).
6. The following process error has been debugged: The "WAIT" LED goes out for an instant when the print position adjustment key starts a continuous operation after a one-step motion.
7. The Data output mode of the Keycard Counter is rejected when the machine is connected to an I/F line.
8. The following process error has been debugged: The TM2400 starts the initial operation when paper is replenished after it is depleted during a sotting operation.
9. An original is stopped 3mm shorter than previous revision in Original Loading Operation and it is fed 3mm further to the Image Scanning Start Position.
   This revision is to prevent an original from coming in contact with the shading sheet.

RA49/V2 00 to RA49/V2.01

1. Master cut length changed from a 556 pulse duration to a 785 pulse duration.

RA5900

RA5900 RA59/V1.01 - ORIGINAL VERSION

RA5900 RA59/V1 01 to RA59/V1.02

1. Master cut length changed from a 556 pulse duration to a 785 pulse duration.
2. CTS Signal is checked for the tele-metering system when the Status Signal is transmitted.

RA4200/4900/5900

RA4200/4900 ROM: RA49/V2.01 to RA49/V2.02 and RA5900 ROM: RA59/V1.02 to RA59/V1.03

1. To customize initial settings, User Mode 12 has been added to allow two types of 2-UP features available to the Operator. (User Mode 12 is only available on RA4200.)

ENTER USER MODE 12	DSW-3;SWITCH #4 to "ON" (SYSTEM PCB)
[0]	Registration; reference A5 Size
[1]	Registration; reference Statement Size

   NOTE: In RC Series Products, 2-UP Mode image registration is controlled by the first original, placing one image after another on the master. In RA Series Products, 2-UP Mode image registration is controlled by paper size detected in the Feed Table, placing the first original on the first half of the master, and the second original on the second half of master.

2. Start Up Test Mode (Memory Switch) 88, allows the heating power to the Thermal Print Head to be increased or decreased to a desired setting using the Print Position Buttons on the Operation Panel, referring to the chart below.

   NOTE : Always turn the system power OFF after changing the setting of Memory Switch 88. This will "lock-in" the newly changed setting into memory. Otherwise, the heating power to the Thermal Print Head will remain unchanged.

Memory Switch Setting	**0**	**1**	**2**	**3**	**4**
Heating Power		**Higher <- - -**	**- -> Lower**		
Setting Guide		**+ Density**	**Factory Setting**	**- Density**	**- Density**
RA4200 K-TPH(300)	**100%**	**103%**	**100%**	**95%**	**90%**
RA4900 T-TPH(400)	**100%**	**100%**	**95%**	**91%**	**85%**
RA5900 K-TPH(400)	**100%**	**105%**	**92%**	**85%**	**81%**

RA4200/4900: RA49/V2.02 to RA49/V2.03 & RA5900: RA59/V1.03 to RA59/V1.04

1. Test Mode 101 (Ink Motor Operation) has been modified as follows:
   a. When Test Mode ~101 is activated, the ink motor starts to operate and remains active until the ink sensor detects ink, while the Drum rotates @ 30tpms without being pressed by the Pressure roller.
   b. When the Ink Sensor detects ink, the Drum is rotated to the Home Position (Position A) and the Confidential Mode of operation begins.
   c. When the Confidential Mode completes, the Drum is rotated @ 30rpms for 30 revolutions, pressed by the Pressure roller. If the Ink Sensor does not detect ink during this operation, the ink motor will be activated. At the end of 30 revolutions, the Pressure solenoid de-energizes and the Drum is returned to the Home Position.
2. Test Mode 97 (All Memory Clear) has been modified as follows:
   The disposed master count is saved during this "Clear" operation.
3. Error detection has been added to detect Magnet "C" Sensor (E-16) malfimctions.
   The operation is interrupted due to Magnet "C" positioning (E-16), when either of the position "C" Plates are damaged.

WHEN REPLACING EXISTING ROM's IN THE SYSTEM, REMEMBER TO START UP IN TEST MODE 97. THIS MODE WILL CLEAR DATA REMAINING IN RAM ON THE SYSTEM PCB.

RA ROM PART NUMBERS:

RA4200 - RA4900:	887-57XXX
RA5900:	887-67XXX

LEGEND: XXX= ROM VERSION
[EXAMPLE: V2.02 = 202]

RC SYSTEM ROM PART NUMBERS:

RC4000/45/56:	886-17XXX
RC5800:	886-27XXX
RC6300:	886-37XXX

RC PANEL ROM PART NUMBERS:

RC4000/45/56:	881-13XXX
RC5800:	881-23XXX
RC6300:	881-33XXX

NOTES:

1. Previous ROM versions may be sent in to the Warranty/Repair Department for reburning. ROMs will be reburned @ $12.50ea. Please adhere to the instructions found in TIB 83, while referencing the latest "Flatrate Repair Schedule.
2. It is recommended that when upgrading ROMs, it takes place at the highest level attainable.
3. GA (Gate Array) and non-GA Roms are not compatible. When upgrading from a non-GA Unit Main to a GA Main, the Image Processor mast also be upgraded to the GA Version Board.
4. Always reference the "ROM Compatibility List" prior to ordering ROMs to help identify your particular needs, based on system configuration.
5. The RC Technical Manual is written in a Non-GA Format. Please reference the RC5800 Technical Manual update pg. IV-24 when adjusting VR's on the GA Unit Main.
6. Should the Unit Main be of the newer RC6300-Type, reference the RC6300 Technical Manual, pg. III-27 for VR adjustments, Switch and Jumper Settings.

*** EXTREMELY IMPORTANT ***

RISO, Inc. currently stocks Unit System Main PCB; P/N 011-98120. This unit is upward and downward compatible to all RC Products. While compatible to all RC's, it is only compatible as a unit. Therefore, individual circuit boards of this unit are not compatible with System Main or System Drive of prior RC Unit System Main Assemblies.

UNITS PURCHASED FROM PARTS ORDER COME WITHOUT ROMS

To avoid confusion with ROM version and compatibility, RISO has adopted the following policy:
When replacing the Unit System Main, retain and install the ROM from the old System Main PCB. If ordering the Unit System Main as a spare part, reference the "ROM Compatibility List," while checking the ROM part number identified in the chart above. The Unit System Main ROM must be compatible with the Operation Panel ROM or the Image Processing PCB of the machine in question.

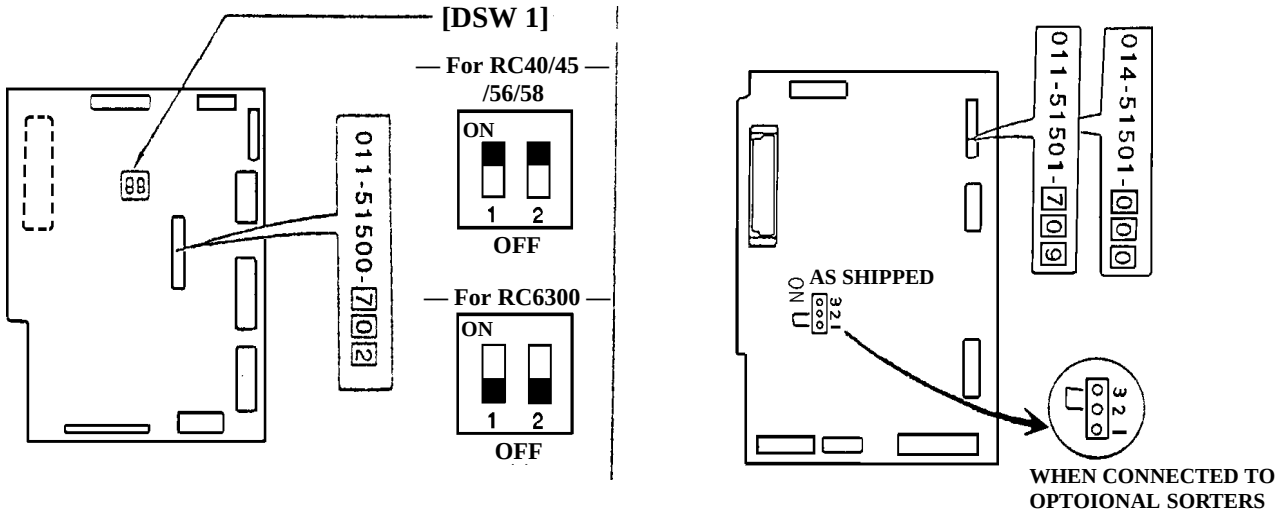
The System Main has a dip switch to accomodate different RC Products:

Both switches "ON" for: RC4000/45/56/56D/58
Both switches "OFF" for: RC6300

The System Drive PCB has a jumper with two positions:

One position for machines with a sorter, and one without.

SET THE SWITCHES AND JUMPER SETTING TO ACCOMMODATE PRODUCT CONFIGURATION UPON INSTALLATION.



The Board Repair Program is also following the same procedures. Therefore, we are only accepting System Main/ Drive Units without ROMS. All single Main or Drive Boards will be returned to dealers unrepaired.

ROM COMPATIBILITY CHART

RC4500/5600/(D)

* -N = NON-GA VERSION ROMS

PANEL / SYSTEM	PP11/ V.5.01	PP11/ V.5.02	PP11/ V.5.03	PP11/ V.5.04	PP11/ V.5.06	PP11/ V5.07	PP11/ V.5.08	PP11/ V5.10	PP11/ V5.12	
* SP11/V1.17 - V1.21 -N	#	#	#	X	X	X	X	X	X	
SP11/V1.26 -N	X	X	X	$	$	$	$	$	X	
SP11G/V5.01 - V5.03	#	#	#	X	X	X	X	X	X	
SP11G/V5.04	#	#	#	X	X	X	X	X	X	
SP11G/V5.06	X	X	X	$	$	$	$	$	X	
SP11G/V5.12 - V5.16	X	X	X	$	$	$	$	$	X	
SP11G/V5.17	X	X	X	$	$	$	@	X	X	
SP11G/V7.01	X	X	X	X	X	X	@	X	X	
SP11G/V7.04	X	X	X	X	X	X	X	&	X	
SP11G/V7.07	X	X	X	X	X	X	X	@	@	
SP11G/V7.08	X	X	X	X	X	X	X	@	@	

RC4000 ALL ROMS - GA

PANEL / SYSTEM	PP11/V5.03- PP11/V5.07	PP11/V5.08	PP11/V5.10
SP11G/V5.03	X	X	X
SP11G/V5.04	X	X	X
SP11G/V5.06	X	X	X
SP11G/V5.12 - V5.16	X	#	X
SP11G/V5.17	X	#	X
SP11G/V7.01	X	#	X
SP11G/V7.04	X	X	#
SP11G/V7.07	X	X	#
SP11G/V7.08	X	X	#

RC5800 ALL ROMS - GA

PANEL / SYSTEM	PP22/ V5.00	PP22/ V5.03	PP22/ V5.04	PP22/ V5.06
SP22/V1.06	$	$	X	X
SP22/V1.07	$	$	X	X
SP22/V1.13	$	$	X	X
SP22/V3.01	X	@	X	X
SP22/V3.04	X	X	&	X
SP22/V3.07	X	X	@	@
SP22/V3.08	X	X	@	@
SP22/V3.09	X	X	@	@
SP22/V3.12	X	X	@	@

RC6300 ALL ROMS - GA

SYSTEM	PP33/V5.02	PP33/V5.03	PP33/V5.04	PP33/V5.05
SP33G/V1.00	@	X	X	X
SP33G/V1.02	@	X	X	X
SP33G/V1.03	@	X	X	X
SP33G/V1.04	@	X	X	X
SP33G/V1.05	@	X	X	X
SP33G/V1.05A	&	X	X	X
SP33G/V1.07	@	X	X	X
SP33G/V1.07A	&	X	X	X
SP33G/V1.08	@	X	X	X
SP33G/V1.09	X	@	X	X
SP33G/V1.10	X	X	@	X
SP33G/V1.11	X	X	@	X
SP33G/V1.11A	X	X	&	X
SP33G/V1.12	X	X	@	@

RA SYSTEM ROMS

4200	4900	5900
V1.07	V1.02	
V2.00		V1.01
V2.01		V1.02
V2.02		V1.03
V2.03		V1.04
V2.04		

RA42/49 Series universal @ V/2.00

LATEST VERSION ROMS

RECOMMENDED VERSION ALL OPTIONS

LEGEND:

@ - STAND ALONE OR RC SORTER OR WITH CI
$ - STAND ALONE / WITH RC SORTER
# - STAND ALONE ONLY
X - NOT COMPATIBLE
& - STAND ALONE / WITH RC SORTER / WITH RC-CI / WITH TM SORTER (ALL OPTIONS)

NOTES:

TO CHECK THE VERSION OF ROM INSTALLED:
ENTER TEST MODE; PANEL AND SYSTEM ROM VERSIONS DISPLAYED IN L.C.D.

ALL (SP) SYSTEM PROGRAMS AND (PP) PANEL PROGRAMS MUST BE COMPATIBLE. (SEE LEGEND)